

## **REMARKS / DISCUSSION OF ISSUES**

Claims 1-8 and 12 are presently under substantive examination. Claim 1 is in independent form. Unless indicated otherwise, claims are amended for non-statutory reasons: to correct one or more informalities, remove figure label number(s), and/or to replace European-style claim phraseology with American-style claim language.

### **Objection to the Drawings**

Applicants gratefully acknowledge the withdrawal of the objections to Figs. 4 and 6.

The objections to Figs. 1 and 10 have been considered. Applicants include replacement sheets 1/7 and 7/7 with the objected to terms deleted. However, Applicants respectfully submit that the terms relating to the change of a physical property are described in the filed application at page 7, lines 2 and 3. Applicants thus only make the amendments to the drawings to remove the terms "A:  $\Delta C$ ,  $\Delta L$ ; B:  $\Delta \text{mass}$ " only to avoid any confusion these may cause.

Upon approval of the changes, Applicants will provide formal drawings in replacement of the amended drawings filed herewith.

### **Objection to the Specification**

Applicants gratefully acknowledge withdrawal of the objections to the specification.

### **Objections to the Claims**

Applicants gratefully acknowledge withdrawal of the objections to the claims.

### **Rejections under 35 U.S.C. § 112**

Applicants gratefully acknowledge withdrawal of the rejections of claim 12.

The rejection of claim 1 is again considered and amendments are made thereto in order to advance prosecution. Withdrawal of the rejections under 35 U.S.C. § 112, second paragraph, is earnestly solicited.

### **Rejections Under 35 U.S.C. § 103**

1. Claims 1, 4, 5, 8 and 12 were rejected under 35 U.S.C. § 103(a) as being obvious over *Oyama, et al.* and *Ruile, et al.* For at least the reasons set forth below, Applicants respectfully submit that this rejection is improper and should be withdrawn.

Claim 1 recites:

“...a remote power transmission element, a resonance circuit, said resonance circuit comprising a resonance frequency (f) determining sensor element, or being electrically coupled to a resonance frequency determining sensor element, *wherein binding at the biomolecular binding sites affects a physical property of the sensor element and thereby the resonance frequency, and a circuit for RF communication of an RF signal in dependence of the resonance frequency of the resonance circuit.*”

In an embodiment described in connection with Fig. 1 of the filed application, the circuit for RF frequency emits a signal dependent on the change of frequency,  $\Delta f$ . The signal could be a signal at the resonance frequency itself. This signal is emitted by the device 1 and received by receiver 7, which thus receives a signal comprising information on the change  $\Delta f$  in the resonance frequency f. This receiver 7 may have an analyser for analysing the change  $\Delta f$  or send the received signal to an analyser for analysing the change  $\Delta f$ . Thus, the resonance frequency and an RF circuit for RF communication of an RF signal are affected by the change in the physical property due to the sites.

The Office Action alleges that the reference to *Oyama, et al.* fails to disclose "...a device comprising a remote power transmission element for receiving a resonant frequency." Applicants note that claim 1 does not recite the above-quoted portion of the Office Action; but rather: *binding at the biomolecular binding sites affects a physical property of the sensor element and thereby the resonance frequency, and a circuit for RF communication of an RF signal in dependence of the resonance frequency of the resonance circuit.*"

The Office Action turns to *Ruile, et al.* in an attempt to cure the conceded defect of *Oyama, et al.* However, *Ruile, et al.* fails to disclose or suggest the communication of an RF signal in dependence of the resonance frequency of the resonance. The reference to *Ruile, et al.* specifically discloses a radio-interrogated surface waver sensor, in which element 12 is a variable impedance that is electrically connected to a surface wave structure 26. An RF signal 30 is interrogative of the structure 26 and creates surface acoustic waves therein. The element 12 acts as a terminating impedance for an RF voltage. This voltage is produced in the structure 26 by virtue of the acoustic surface wave. Since the **electrical impedance of element 12 changes with the amplitude of the surface waves in the structure 26**, the complex electrical **terminating impedance** of the structure also **changes**. The reference discloses that an influence is produced, which lies between a very high terminating impedance and a short circuit. The influence on the terminating impedance is a function of the amplitude. By suitably dimensioning the electrical values of element 12, a favorable measurement of the **range of terminating impedance due to element 12 can be set in each case**. (Kindly refer to column 3, lines 11-51 of the reference to *Ruile, et al.*)

As will be appreciated from a review of the reference, *Ruile, et al.* is drawn to the interrogation of a surface acoustic wave sensor by determining the terminating impedance, which is affected by the amplitude of surface acoustic waves across the sensor. There is no disclosure or suggestion of the

determination of a resonance signal; and particularly there is no disclosure or suggestion of the communication of an RF signal in ***dependence of the resonance frequency*** as specifically featured in claim 1.

For at least the reasons set forth above, Applicants respectfully submit that the rejection of claim 1 and the claims that depend therefrom is improper. As such, and while in no way conceding as to the propriety of the combination of references, Applicants submit that claim 1 and the claims that depend therefrom are patentable over the applied art.

2. Claims 2, 3, 6 and 7 were rejected as being obvious over *Oyama, et al.* and *Ruile, et al.* and tertiary references. While in no way conceding the propriety of these rejections, Applicant note that these claims depend from claim 1 directly or indirectly. For at least the reasons set forth above, Applicants respectfully submit that these claims are patentable at least because of their dependence on claim 1.

### **Conclusion**

In view the foregoing, applicant(s) respectfully request(s) that the Examiner withdraw the objection(s) and/or rejection(s) of record, allow all the pending claims, and find the application in condition for allowance.

If any points remain in issue that may best be resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

Respectfully submitted on behalf of:  
Phillips Electronics North America Corp.



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Attachment: Replacement Sheets (2) of drawings